

(19) World Intellectual Property  
Organization  
International Bureau



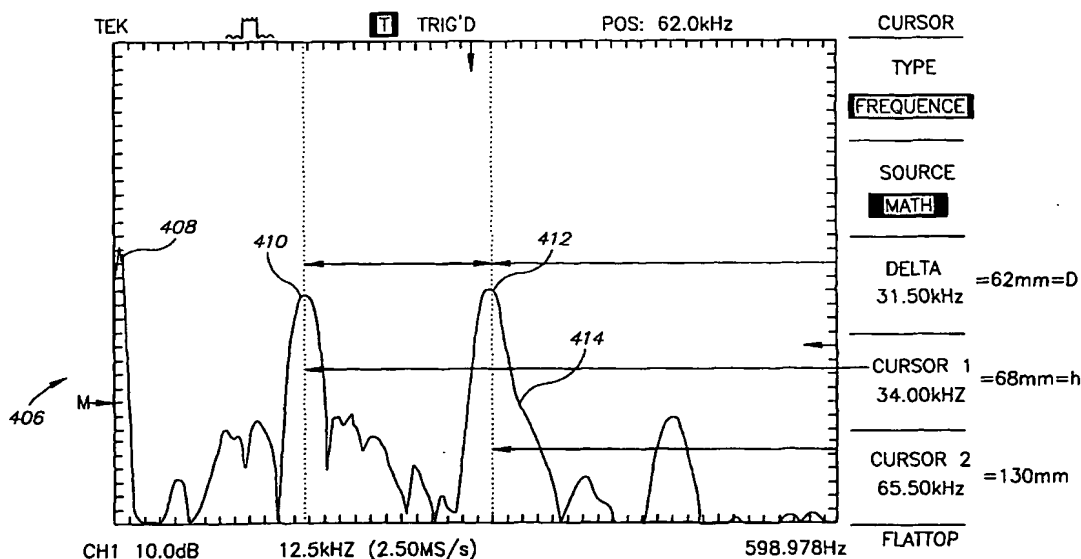
(43) International Publication Date  
21 April 2005 (21.04.2005)

PCT

(10) International Publication Number  
**WO 2005/034717 A2**

- (51) International Patent Classification<sup>7</sup>: **A61B**
- (21) International Application Number:  
PCT/IL2004/000940
- (22) International Filing Date: 13 October 2004 (13.10.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
158379 13 October 2003 (13.10.2003) IL
- (71) Applicant (for all designated States except US):  
**VOLURINE ISRAEL LTD.** [IL/IL]; TAMAR PARK, 2  
BERGMAN STREET, 76705 REHOVOT (IL).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **KANTOROVICH,**  
**Edward** [IL/IL]; 30 BEN-ZION AVENUE, 76465 RE-  
HOVOT (IL).
- (74) Agents: **FENSTER, Paul et al.**; FENSTER & COM-  
PANY, INTELLECTUAL PROPERTY 2002 LTD., P. O.  
BOX 10256, 49002 PETACH TIKVA (IL).
- (81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.
- (84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).
- Published:  
— without international search report and to be republished  
upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: **BLADDER MEASUREMENT**



(57) Abstract: A measuring device, comprising, (a) an ultrasonic acoustic transceiver unit capable of sending and receiving acoustic signals into the body of a patient; (b) frequency modulating circuitry which drives said transceiver unit with a signal whose frequency varies with time; and (c) processing circuitry which extracts an indication of a distance, from at least one signal detected by said transceiver unit, said signal being a reflection of a transmission of said transceiver unit driven by said time varying frequency signal. Optionally, the indication is a distance between walls of a bladder.